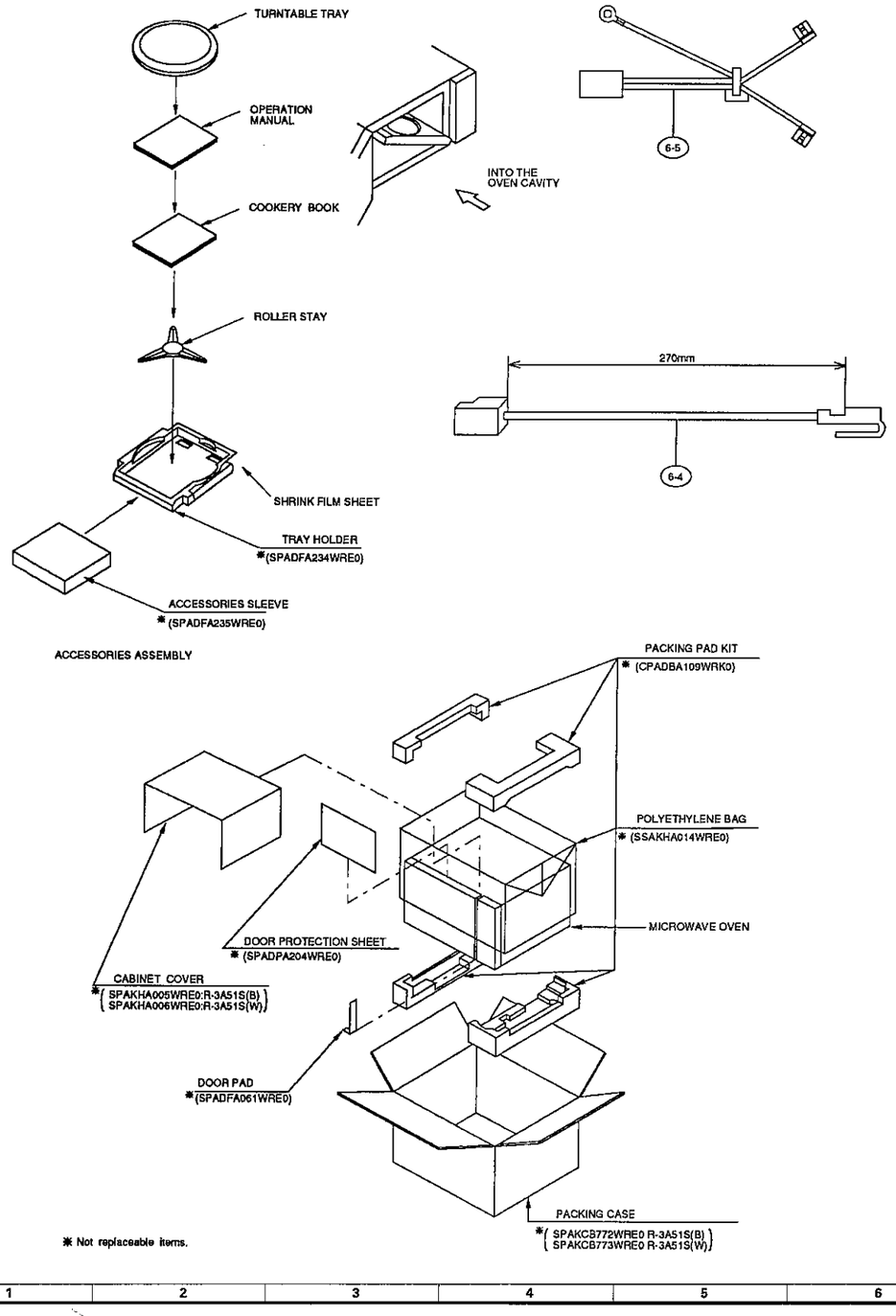
## MISCELLANEOUS, PACKING AND ACCESSORIES




* Not replaceable items.

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11/91

R-3A51S(W)
R-3A51S(B)

# SHARP® SERVICE MANUAL

S8122R3A1SPHW

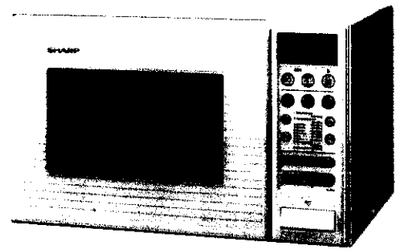

Photo R-3A51S(W)

## MICROWAVE OVEN

## MODELS R-3A51S(W) R-3A51S(B)

In interests of user-safety the oven should be restored to its original condition and only parts identical to those specified should be used.

This is a supplemental Service Manual for Model R-3A51S(W) etc.
Those models are quite similar to Base Model R-3A51(W)/(B) (Refer No. is S1101R3A51PHW).
Use this supplemental manual together with the Base Model Service Manual.
Refer to the Base Model Service Manual for complete operation, service information, etc.

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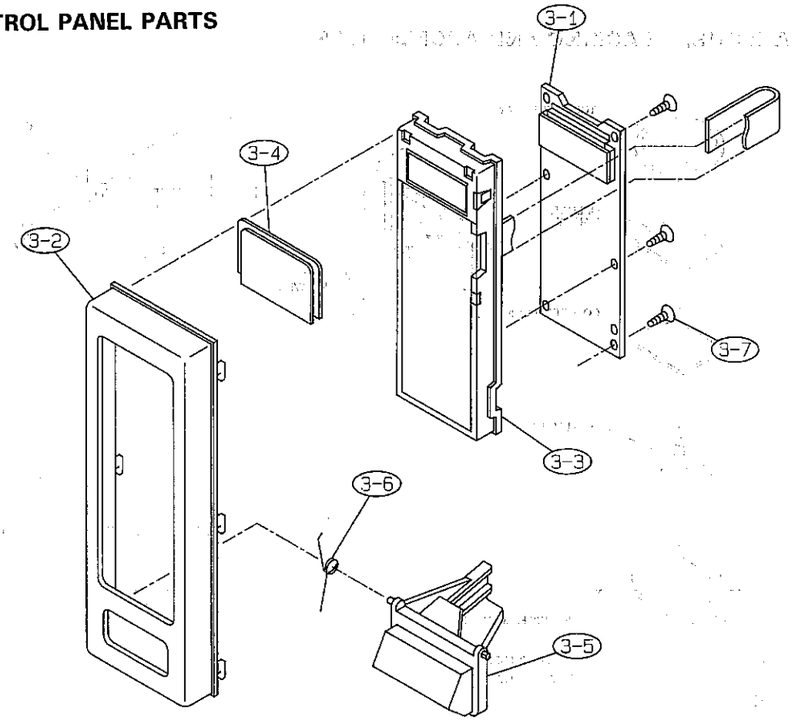
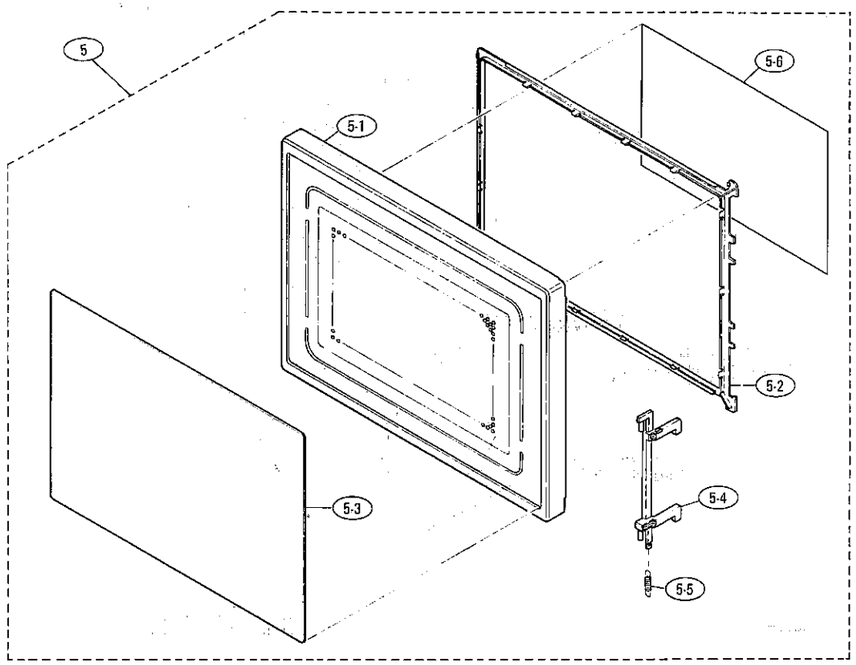
SHARP CORPORATION

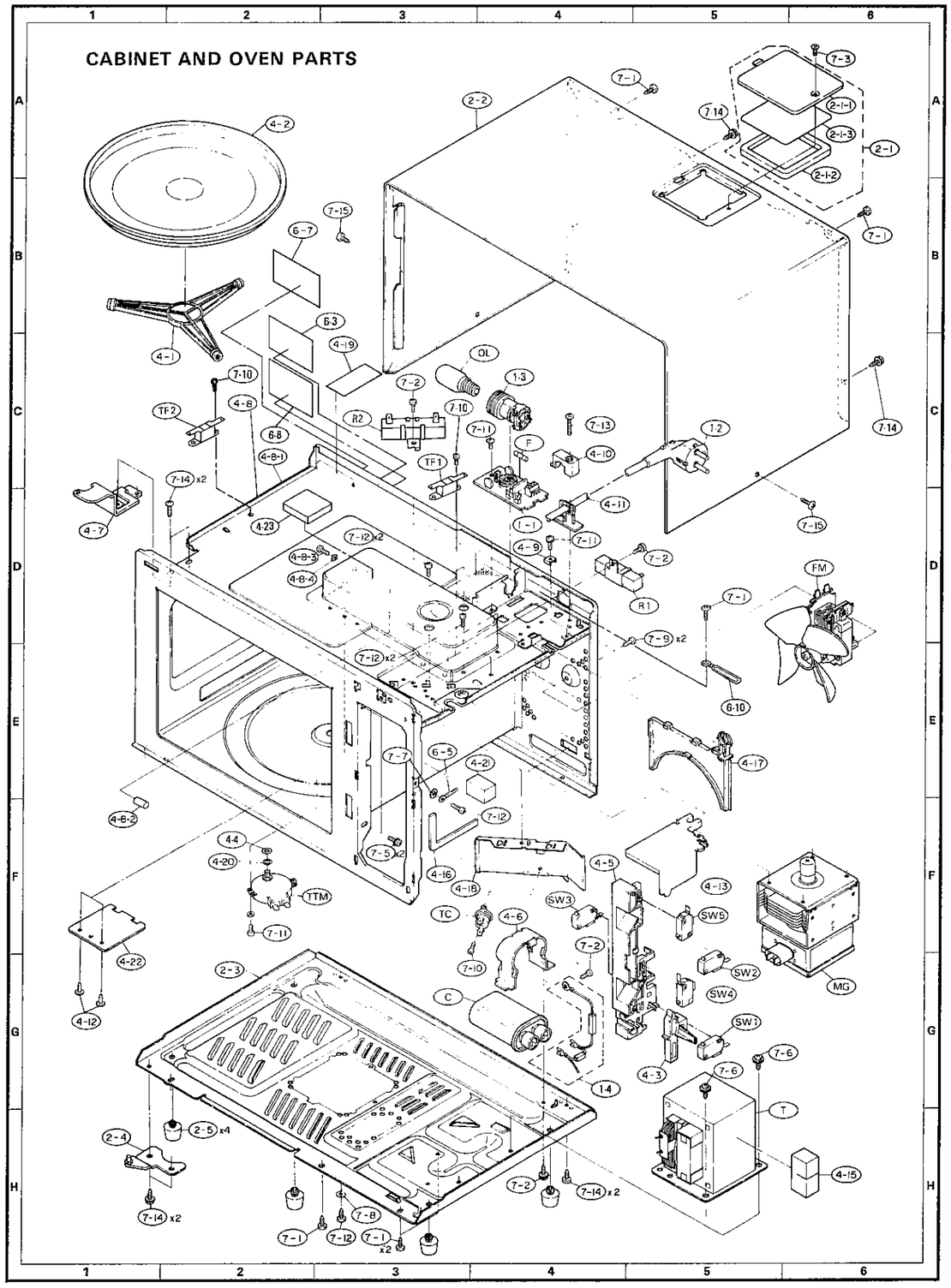
R-3A51S(W)
R-3A51S(B)

## CONTROL PANEL PARTS




## DOOR PARTS








R-3A51S(W)
R-3A51S(B)

# SERVICE MANUAL

SHARP

**MICROWAVE OVEN**

**R-3A51S(W)/ R-3A51S(B)**

## GENERAL IMPORTANT INFORMATION

This Manual has been prepared to provide Sharp Corp. Service engineers with Operation and Service Information.

It is recommended that service engineers carefully study the entire text of this manual and base model manual, so they will be qualified to render satisfactory customer service.

**CAUTION**
**MICROWAVE RADIATION**

Service engineers should not be exposed to the microwave energy which may radiate from the magnetron or other microwave generating devices if it is improperly used or connected. All input and output microwave connections, waveguides, flanges and gaskets must be secured. Never operate the device without a microwave energy absorbing load attached. Never look into an open waveguide or antenna while the device is energized.

WARNING

Never operate the oven until the following points are ensured.
(A) The door is tightly closed.
(B) The door brackets and hinges are not defective.
(C) The door packing is not damaged.
(D) The door is not deformed or warped.
(E) There is not any other visible damage with the oven.

Servicing and repair work must be carried out only by trained service engineers.

All the parts marked "*" on parts list are used at voltages more than 250V.

**SHARP CORPORATION**

**OSAKA, JAPAN**



R-3A51S(W)
R-3A51S(B)

PRODUCT SPECIFICATIONS

APPEARANCE VIEW

COMPONENT REPLACEMENT AND ADJUSTMENT PROCEDURE

MICROWAVE MEASUREMENT

WIRING DIAGRAM

PICTORIAL DIAGRAM

PARTS LIST

# PRODUCT SPECIFICATIONS

## SPECIFICATION

| ITEM | DESCRIPTION |
|---|---|
| Power Requirements | 220 – 230 Volts<br>50 Hertz<br>Single phase, 3 wire grounded |
| Power Consumption | 1.16 kW Approx. 5.3 Ampers |
| Power Output | 750W watts nominal of RF microwave energy<br>(measured by way of IEC 705) |
| Outside Dimensions | Width 450mm<br>Height 285mm<br>Depth 340mm |
| Cooking Cavity Dimensions | Width 285 mm<br>Height 185 mm<br>Depth 313 mm |
| Turntable diameter | 272mm |
| Control Complement | Touch Control System<br>Clock( 1:00 – 12:59 or 0:00 – 23:59 )<br>Timer (0 - 99 minutes 90 seconds ) |
| Control Complement | 99 minutes 90 seconds<br>Microwave Power for Variable Cooking<br>Repetition Rate;<br>HIGH ..... Full power throughout the cooking time<br>MEDIUM HIGH ..... approx. 70% of Full Power<br>MEDIUM ..... approx. 50% of Full Power<br>MEDIUM LOW ..... approx. 30% of Full Power<br>LOW ..... approx. 10% of Full Power<br>EASY REHEAT pad<br>EASY DEFROST pad<br>AUTO COOK pad<br>Weight pad<br>LESS/MORE pad<br>POWER SETTING pad<br>STOP/CLEAR pad<br>MINUTE TIMER/HOLD pad<br>Conversion pad<br>AUTO START/CLOCK SETTING pad<br>Time pads<br>MINUTE PLUS/START pad |
| Set Weight | Approx. 14.0 kg |

## GENERAL INFORMATION

**WARNING**

**THIS APPLIANCE MUST BE EARTHED**

**IMPORTANT**

THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE:

| | |
|---|---|
| GREEN-AND-YELLOW | : EARTH |
| BLUE | : NEUTRAL |
| BROWN | : LIVE |





Note : The parts marked "*" are used in voltage more than 250V.

| | REF. NO. | PART NO. | DESCRIPTION | Q'TY | CODE |
|---|---|---|---|---|---|
| | | | **DOOR PARTS** | | |
| | 5 | DDORFA422WRK0 | Door assembly, complete : R-3A51S(W) | 1 | BH |
| | 5 | DDORFA428WRK0 | Door assembly, complete : R-3A51S(B) | 1 | BH |
| | 5- 1 | FDORFA199WRT0 | Door panel : R-3A51S(W) | 1 | BD |
| | 5- 1 | FDORFA203WRT0 | Door panel : R-3A51S(B) | 1 | AW |
| | 5- 2 | GCOVHA229WRF0 | Choke cover : R-3A51S(W) | 1 | AK |
| | 5- 2 | GCOVHA227WRF0 | Choke cover : R-3A51S(B) | 1 | AM |
| | 5- 3 | HPNL-A315WRE0 | Door screen : R-3A51S(W) | 1 | AP |
| | 5- 3 | HPNL-A320WRE0 | Door screen : R-3A51S(B) | 1 | AN |
| | 5- 4 | LSTPPA091WRF0 | Latch head : R-3A51S(W) | 1 | AG |
| | 5- 4 | LSTPPA089WRF0 | Latch head : R-3A51S(B) | 1 | AF |
| | 5- 5 | MSPRTA081WRE0 | Latch spring | 1 | AA |
| | 5- 6 | PSHEPA333WRE0 | Sealer film | 1 | AE |
| | | | **MISCELLANEOUS** | | |
| | 6- 1 | TINS-A270WRR0 | Instruction book (Germany, French, Dutch) | 1 | AH |
| | 6- 1 | TINS-A300WRR0 | Instruction book (Itary, Spain) | 1 | AN |
| | 6- 2 | FW-VZB046WRE0 | Main wire harness | 1 | BA |
| | 6- 3 | TSPCNB521WRR0 | Rating label : R-3A51S(W) | 1 | AG |
| | 6- 3 | TSPCNB520WRR0 | Rating label : R-3A51S(B) | 1 | AG |
| * | 6- 4 | QW-QZA136WRE0 | High voltage wire A | 1 | AH |
| | 6- 5 | FW-VZA908WRE0 | Switch harness | 1 | AH |
| | 6- 6 | TCADCA379WRR0 | Cookery book | 1 | AU |
| | 6- 7 | TCAUHA086WRR0 | Caution label | 1 | AF |
| | 6- 8 | TCAUHA087WRR0 | Belgiun label | 1 | AE |
| | 6- 9 | TLABMA270WRR0 | Menu label | 1 | AE |
| | 6-10 | LBNDKA080WRE0 | Wire holder-B | 1 | AD |
| | | | **SCREWS, NUT AND WASHER** | | |
| | 7- 1 | XOTSD40P12000 | Screw; M4 x 12 zinc plated steel | 6 | AA |
| | 7- 2 | XHTSD40P08RV0 | Screw; M4 x 8 zinc plated steel | 4 | AA |
| | 7- 3 | XHSSE40P08000 | Screw; M4 x 8 : R-3A51S(W) | 1 | AA |
| | 7- 3 | XHSSF40P08000 | Screw; M4 x 8 : R-3A51S(B) | 1 | AA |
| | 7- 5 | LX-CZ0052WRE0 | Special screw | 2 | AA |
| | 7- 6 | LX-EZA036WRE0 | Special screw | 2 | AA |
| | 7- 7 | XWUSE40-05000 | Washer; T/C grounding mtg. | 1 | AA |
| | 7- 8 | XWSSD40-10000 | Washer; | 1 | AA |
| | 7- 9 | XBTSD40P08RV0 | Screw; M4 x 8 | 2 | AA |
| | 7-10 | XFPSD30P10000 | Screw; M3 x 10 | 3 | AA |
| | 7-11 | XFPSD40P08K00 | Screw; M4 x 8 zinc plated steel | 3 | AA |
| | 7-12 | XFPSD40P08000 | Screw; M4 x 8 zinc plated steel | 6 | AA |
| | 7-13 | XFPSD40P30000 | Screw; M4 x 30 zinc plated steel | 1 | AA |
| | 7-14 | XOTSD40P12RV0 | Screw; M4 x 12 | 8 | AA |
| | 7-15 | XOTSE40P08000 | Screw; M4 x 12 : R-3A51S(W) | 2 | AA |
| | 7-15 | XOTSF40P08000 | Screw; M4 x 12 : R-3A51S(B) | 2 | AA |

HOW TO ORDER REPLACEMENT PARTS

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER 2. REF. NO. 3. PART NO. 4. DESCRIPTION

Note : The parts marked "*" are used in voltage more than 250V.

| REF. NO. | PART NO. | DESCRIPTION | Q'TY | CODE |
|---|---|---|---|---|
| Q80 | VSDTA114ES/-3 | Transistor (DTA114ES) | 1 | AB |
| Q81 | VSDTD143ES/-3 | Transistor (DTD143ES) | 1 | AC |
| R2 | VRD-B12HF272J | Resistor 2.7KΩ 1/2W | 1 | AB |
| R3 | VRD-B12HF102J | Resistor 1KΩ 1/2W | 1 | AA |
| R4 | VRD-B12HF112J | Resistor 1.1KΩ 1/2W | 1 | AA |
| R5 | VRD-B12EF821J | Resistor 820Ω 1/4W | 1 | AA |
| R10 | VRD-B12EF123J | Resistor 12kΩ 1/4W | 1 | AA |
| R11,20 | VRD-B12EF103J | Resistor 10kΩ 1/4W | 2 | AA |
| R30 | VRD-B12EF102J | Resistor 1kΩ 1/4W | 1 | AA |
| R31 | VRD-B12EF332J | Resistor 3.3kΩ 1/4W | 1 | AA |
| R40 | VRD-B12EF473J | Resistor 47kΩ 1/4W | 1 | AA |
| R41 | VRD-B12EF563J | Resistor 56kΩ 1/4W | 1 | AA |
| R50-53, 152, 154-157 | VRD-B12EF183J | Resistor 18kΩ 1/4W | 9 | AA |
| R80 | VRD-B12EF623J | Resistor 62KΩ 1/4W | 1 | AA |
| R81 | VRD-B12EF471J | Resistor 470Ω 1/4W | 1 | AA |
| R82 | VRD-B12EF201J | Resistor 200Ω 1/4W | 1 | AA |
| R83,84 | VRD-B12EF390J | Resistor 39Ω 1/4W | 2 | AA |
| R90 | VRD-B12EF122J | Resistor 1.2kΩ 1/4W | 1 | AA |
| RY1 | RRLY-A020DRE0 | Relay (OJ-SH-112LM) | 1 | AH |
| RY2,3 | RRLY-A059DRE0 | Relay (VS14MB-NR) | 2 | AK |
| SP30 | RALM-A010DRE0 | Buzzer (PKM22EPT-CA) | 1 | AF |
| T1 | RTRNPA065DRE0 | Transformer | 1 | AV |
| VRS1 | RH-VZA010DRE0 | Varistor (TNR15G471K) | 1 | AE |
| ZD1 | VHEHZ12B1//-1 | Zener diode (HZ12B1) | 1 | AB |
| ZD2 | VHEHZ6C2///-1 | Zener diode (HZ6C-2) | 1 | AA |
| ZD3 | VHEHZ6A3///-1 | Zener diode (HZ6A-3) | 1 | AC |
| ZD10,20 | VHEHZ11A3//-1 | Zener diode (HZ11A-3) | 2 | AA |
| 3- 2 | HPNLCA887WRR0 | Control panel frame : R-3A51S(B) | 1 | AR |
| | HPNLCA888WRR0 | Control panel frame : R-3A51S(W) | 1 | AR |
| 3- 3 | DUNTKA415WRK0 | Key unit assembly : R-3A51S(B) | 1 | BA |
| | DUNTKA416WRK0 | Key unit assembly : R-3A51S(W) | 1 | BA |
| 3- 4 | GMADIA054WRF0 | Display window | 1 | AE |
| 3- 5 | JBTN-A690WRF0 | Open button : R-3A51S(B) | 1 | AH |
| | JBTN-A680WRF0 | Open button : R-3A51S(W) | 1 | AG |
| 3- 6 | MSPRDA014WRE0 | Open button spring | 1 | AC |
| 3- 7 | XEPSD30P10XS0 | Screw;Control unit mounting | 3 | AA |

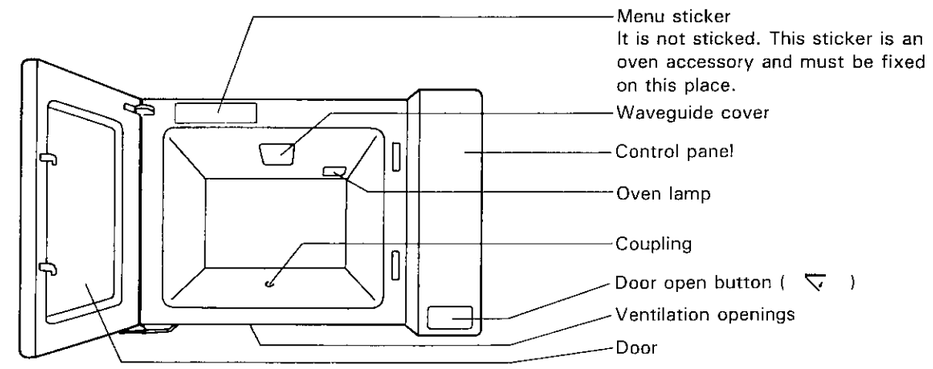
**OVEN PARTS**

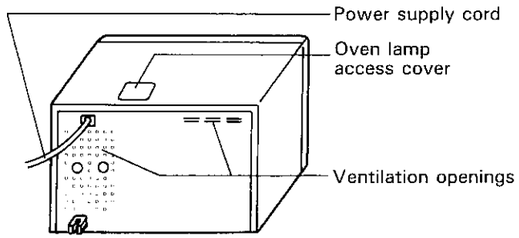
| | | | | |
|---|---|---|---|---|
| 4- 1 | FROLPA050WRK0 | Roller stay | 1 | AX |
| 4- 2 | NTNT-A034WRF0 | Turntable ✓ | 1 | AM |
| 4- 3 | MLEVPA171WRF0 | Switch lever | 1 | AF |
| 4- 4 | LX-WZA028WRE0 | Washer | 1 | AB |
| 4- 5 | PHOK-A062WRF0 | Latch hook | 1 | AP |
| 4- 6 | LBNDKA038WRP0 | Capacitor holder | 1 | AH |
| 4- 7 | MHNG-A225WRT0 | Upper oven hinge | 1 | AG |
| 4- 8 | DOVN-A314WRK0 | Oven cavity assembly | 1 | BP |
| 4- 8-2 | LBOS-A042WRE0 | Waveguide stub | 1 | AG |
| 4- 8-3 | XBPUW50P08000 | Screw M5 x 8 | 1 | AA |
| 4- 8-4 | XWSUW50-13000 | Washer | 1 | AA |
| 4- 9 | LANGQA167WRM0 | Earth angle | 1 | AA |
| 4-10 | LSTPPA069WRF0 | Cord anchorage (upper) | 1 | AE |
| 4-11 | LSTPPA070WRF0 | Cord anchorage (lower) | 1 | AC |
| 4-12 | PCLIC0026WRE0 | P-clip | 1 | AA |
| 4-13 | PCOVPA208WRF0 | H.V.C. cover | 1 | AF |
| 4-15 | PPACGA073WRE0 | Trans. cushion | 1 | AD |
| 4-16 | PCUSUA190WRP0 | Cushion | 1 | AC |
| 4-17 | PDUC-A395WRF0 | Air guide | 1 | AG |
| 4-18 | PDUC-A399WRW0 | Air duct assembly | 1 | AP |
| 4-19 | PFILWA041WRE0 | Lamp filter | 1 | AA |
| 4-20 | PPACGA097WRE0 | O-ring | 1 | AA |
| 4-21 | PPACGA054WRE0 | Cushion | 1 | AC |
| 4-22 | PCOVPA241WRE0 | Waveguide cover ✓ | 1 | AL |
| 4-23 | PCUSGA312WRP0 | Cushion | 1 | AB |

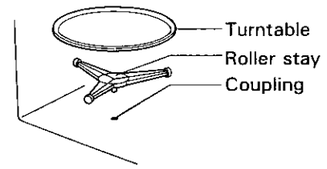




# APPEARANCE VIEW



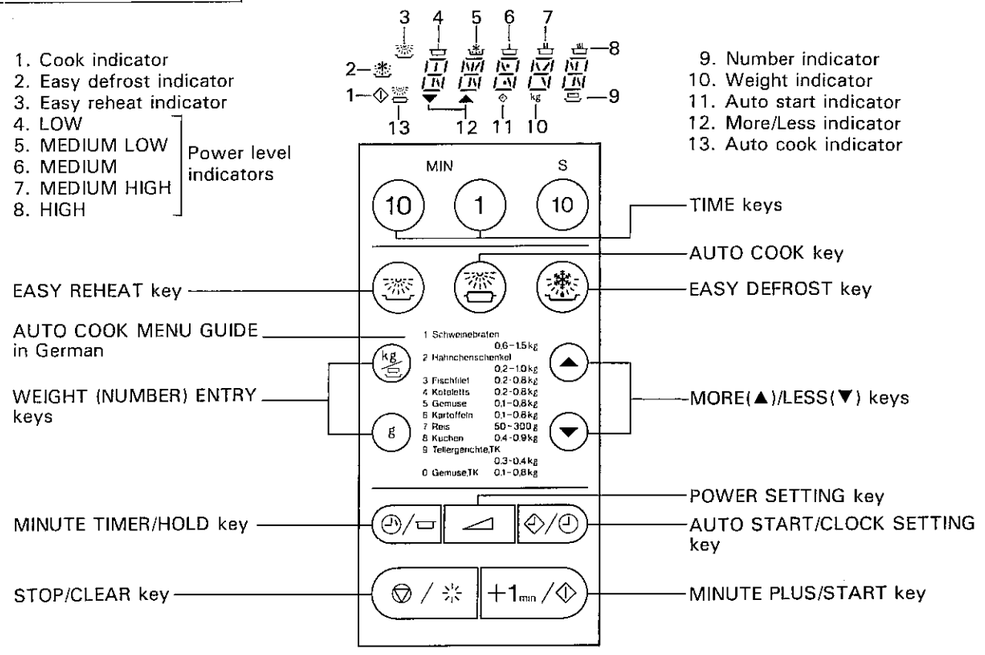




## Auto-Touch Control Panel

1. Cook indicator
2. Easy defrost indicator
3. Easy reheat indicator
4. LOW
5. MEDIUM LOW
6. MEDIUM
7. MEDIUM HIGH
8. HIGH

Power level indicators

9. Number indicator
10. Weight indicator
11. Auto start indicator
12. More/Less indicator
13. Auto cook indicator



## POSITIVE LOCK® CONNECTOR (NO-CASE TYPE) REMOVAL

Push the lever of positive lock® connector, Pull down on the positive lock® connector.

**CAUTION: WHEN YOU CONNECTING THE POSITIVE LOCK® CONNECTORS TO THE TERMINALS, INSTALL THE POSITIVE LOCK® SO THAT THE LEVER FACES YOU.**

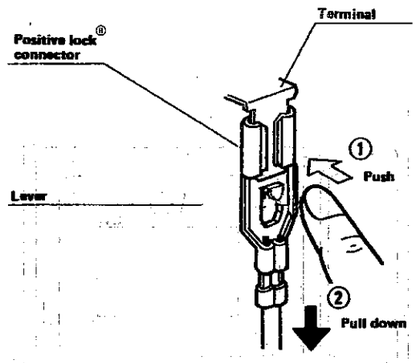



**Figure C-1. Positive lock® connector**



R-3A51S(W)
R-3A51S(B)

# PARTS LIST

Note : The parts marked "*" are used in voltage more than 250V.

| | REF. NO. | PART NO. | DESCRIPTION | Q'TY | CODE |
|---|---|---|---|---|---|
| | | | **ELECTRICAL PARTS** | | |
| * | C | RC-QZA114WRE0 | High voltage capacitor | 1 | AW |
| | F | QFS-CA011WRE0 | Fuse F6.3A | 1 | AC |
| | FM | FMOTEA209WRK0 | Fan motor with fan blade | 1 | AZ |
| * | MG | RV-MZA129WRE0 | Magnetron | 1 | BL |
| | OL | RLMPTA028WRE0 | Oven lamp | 1 | AM |
| | R1 | RR-WZ0020WRE0 | Monitor resistor 4.3Ω 20W | 1 | AK |
| | R2 | RR-WZA005WRE0 | Surge resistor 10Ω 20W | 1 | AG |
| | SW1 | QSW-MA007WRE0 | 1st latch switch | 1 | AF |
| | SW2 | QSW-MA007WRE0 | 2nd latch switch | 1 | AF |
| | SW3 | QSW-MA007WRE0 | 3rd latch switch | 1 | AF |
| | SW4 | QSW-MA009WRE0 | Monitor switch | 1 | AF |
| | SW5 | QSW-MA007WRE0 | Stop switch | 1 | AF |
| * | T | RTRN-A283WRE0 | Power transformer | 1 | BL |
| * | TC | RTHM-A058WRE0 | Thermal cut-out 115°C | 1 | AG |
| | TF1 | QFS-TA014WRE0 | Temp. fuse 150°C (MG) | 1 | AG |
| | TF2 | QFS-TA014WRE0 | Temp. fuse 150°C (OVEN) | 1 | AG |
| | TTM | RMOTDA086WRE0 | Turntable motor | 1 | AP |
| | 1- 1 | FPWBFA216WRK0 | Noise filter | 1 | AX |
| | 1- 2 | QACCVA007WRE0 | Power supply cord | 1 | AP |
| | 1- 3 | QSOCLA011WRE0 | Oven lamp socket | 1 | AH |
| * | 1- 4 | FW-QZA068WRK0 | H.V. rectifier assembly | 1 | AY |
| | | | **CABINET PARTS** | | |
| | 2- 1 | FFTASA035WRK0 | Oven lamp access cover assembly : R-3A51S(W) | 1 | AN |
| | 2- 1 | FFTASA050WRK0 | Oven lamp access cover assembly : R-3A51S(B) | 1 | AP |
| | 2- 1-2 | PCUSGA306WRP0 | Cushion | 1 | AA |
| | 2- 1-3 | PSLDPA005WRP0 | Lamp reflector | 1 | AD |
| | 2- 2 | GCABUA306WRP0 | Outer case cabinet : R-3A51S(W) | 1 | BC |
| | 2- 2 | GCABUA345WRP0 | Outer case cabinet : R-3A51S(B) | 1 | BE |
| | 2- 3 | FDAI-A135WRW0 | Bottom plate | 1 | AW |
| | 2- 4 | FHNG-A096WRT0 | Lower oven hinge | 1 | AK |
| | 2- 5 | GLEGPA023WRE0 | Foot | 4 | AB |
| | | | **CONTROL PANEL PARTS** | | |
| | 3- 1 | CPWBFA360WRK0 | Control unit | 1 | BQ |
| | 3- 1A | QCNCMA088DRE0 | 5-pin connector (A) | 1 | AC |
| | 3- 1B | QCNCM0027WRE0 | 2-pin connector (B) | 1 | AB |
| | 3- 1C | QCNCWA030DRE0 | 12-pin connector (D) | 1 | AF |
| | 3- 1D | RV-KXA038DRE0 | Fluorescent display tube | 1 | AU |
| | C1 | RC-KZA032DRE0 | Capacitor 0.1μF 50V | 1 | AB |
| | C2 | VCEAB31VW108M | Capacitor 1000μF 35V | 1 | AG |
| | C5 | VCEAB31EW476M | Capacitor 47μF 25V | 1 | AB |
| | C6,7,20, C21,40 | VCKYB11EX103N | Capacitor 0.01μF 25V | 5 | AA |
| | C53 | VCKYD11HB331K | Capacitor 330pF 50V | 1 | AA |
| | C80 | VCEAB31HW104M | Capacitor 0.1μF 50V | 1 | AC |
| | C81 | VCEAB31HW225M | Capacitor 2.2μF 50V | 1 | AA |
| | C82 | VCEAB31HW335M | Capacitor 3.3μF 50V | 1 | AA |
| | C90 | VCC-F31H-680J | Capacitor 68pF 50V | 1 | AA |
| | C91 | VCC-F31H-181J | Capacitor 180pF 50V | 1 | AB |
| | CF90 | RCRS-2008DRE0 | Ceramic resonator KBR600B(600kHz) | 1 | AF |
| | D1-5,81 | VHD11ES1///-1 | Diode (11ES1) | 6 | AB |
| | D52,54-57,80-82,84 | VHD1SS270A/-1 | Diode (1SS270A) | 9 | AA |
| | IC1 | RH-IZA314DRE0 | LSI | 1 | AS |
| | Q1 | VS2SB910MR/-4 | Transistor (2SB910MR) | 1 | AC |
| | Q20,82 Q83 | VSDTC114ES/-3 | Transistor (DTC114ES) | 3 | AB |

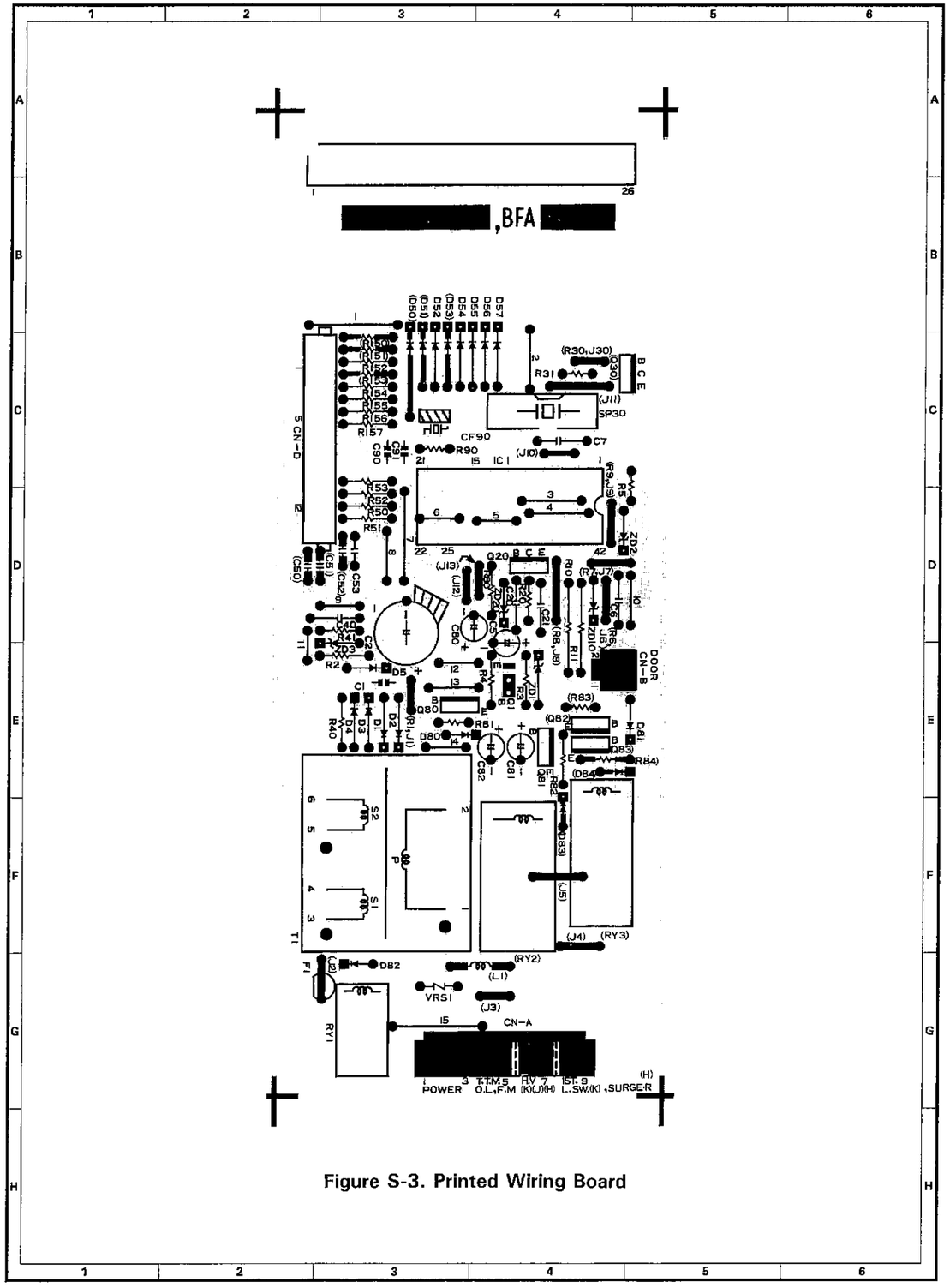



Figure S-3. Printed Wiring Board





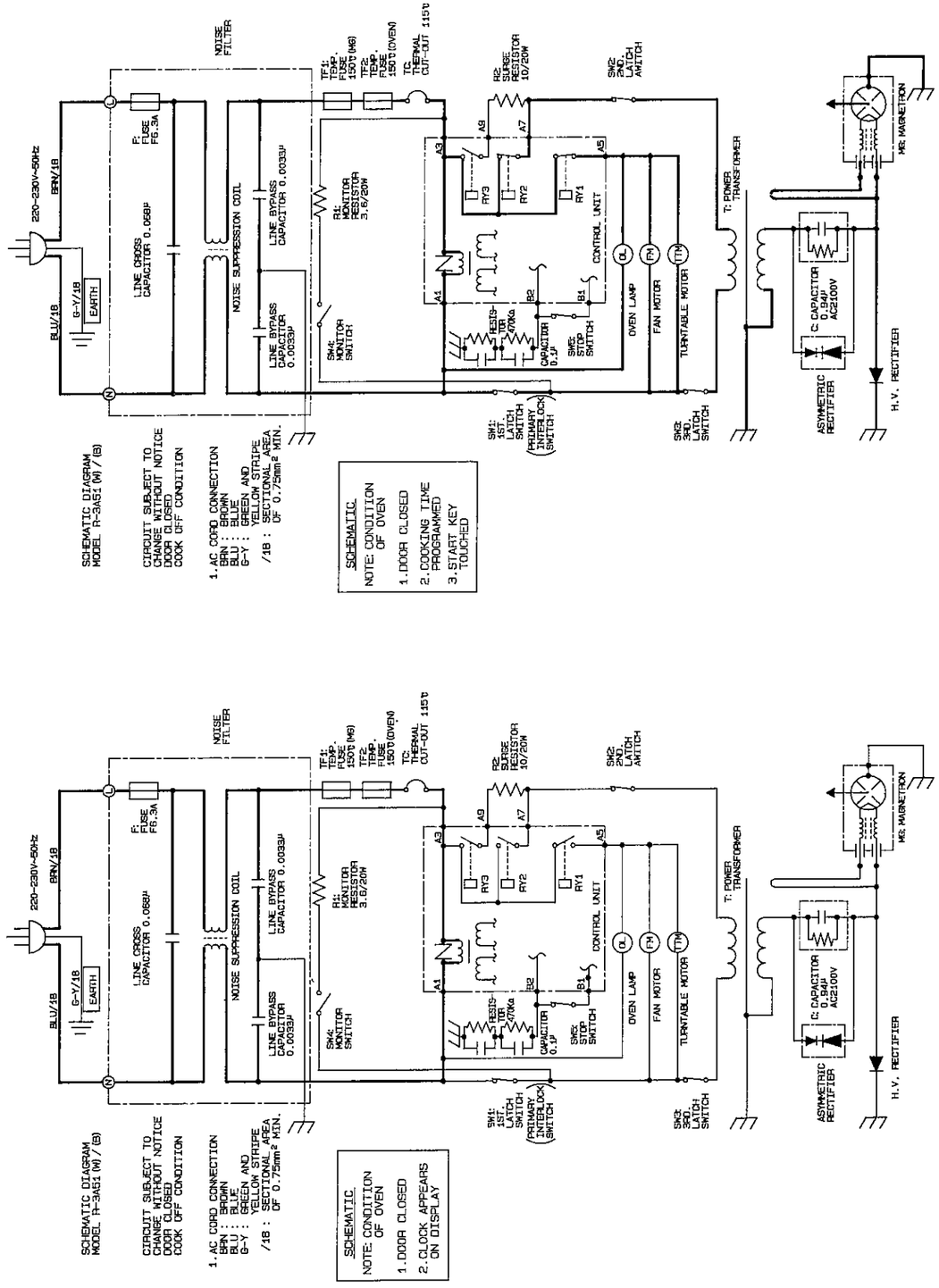



Figure O-2 Oven Schematic-ON Condition




Figure O-1 Oven Schematic-OFF Condition

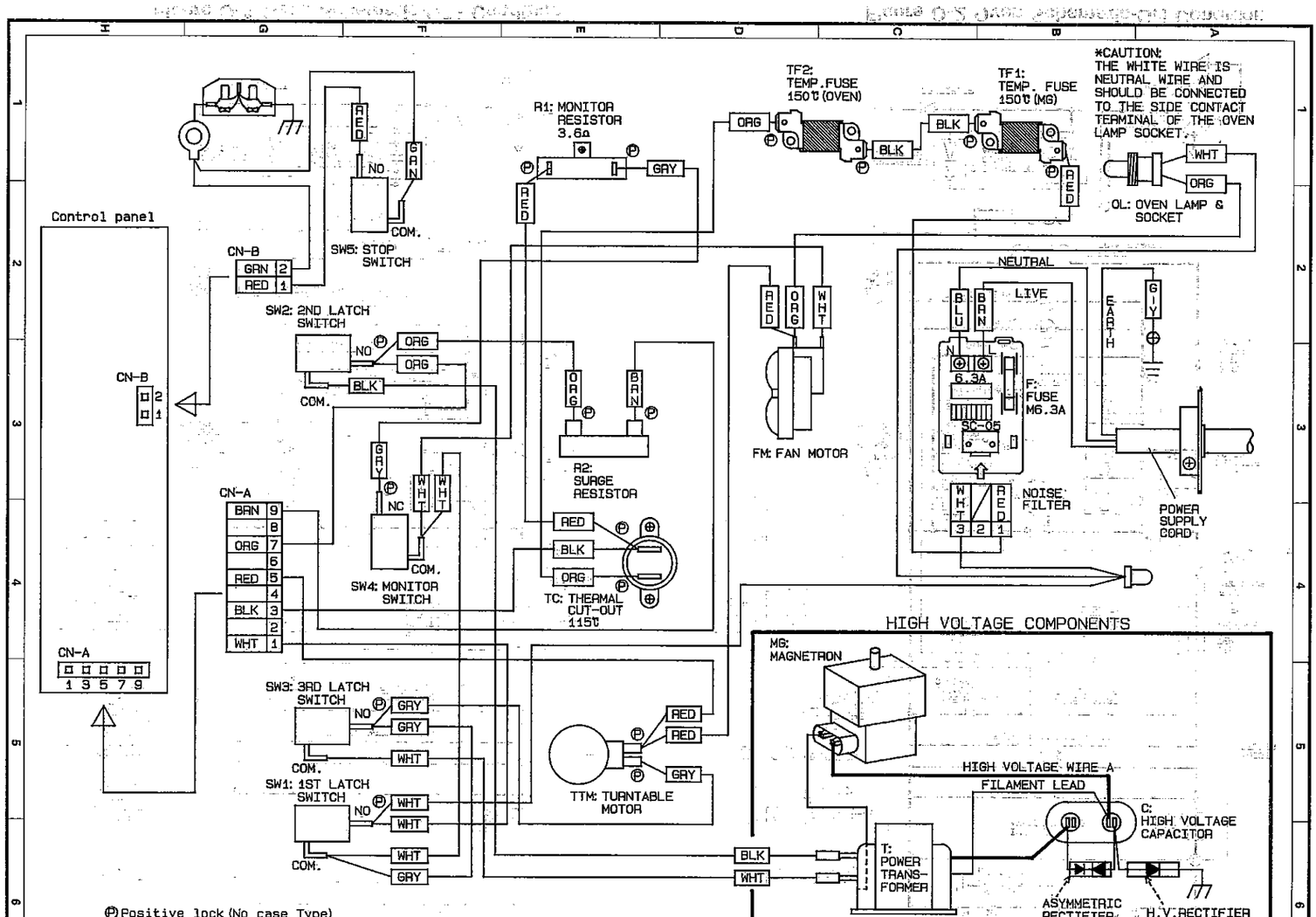



**Figure S-1. Pictorial Diagram**

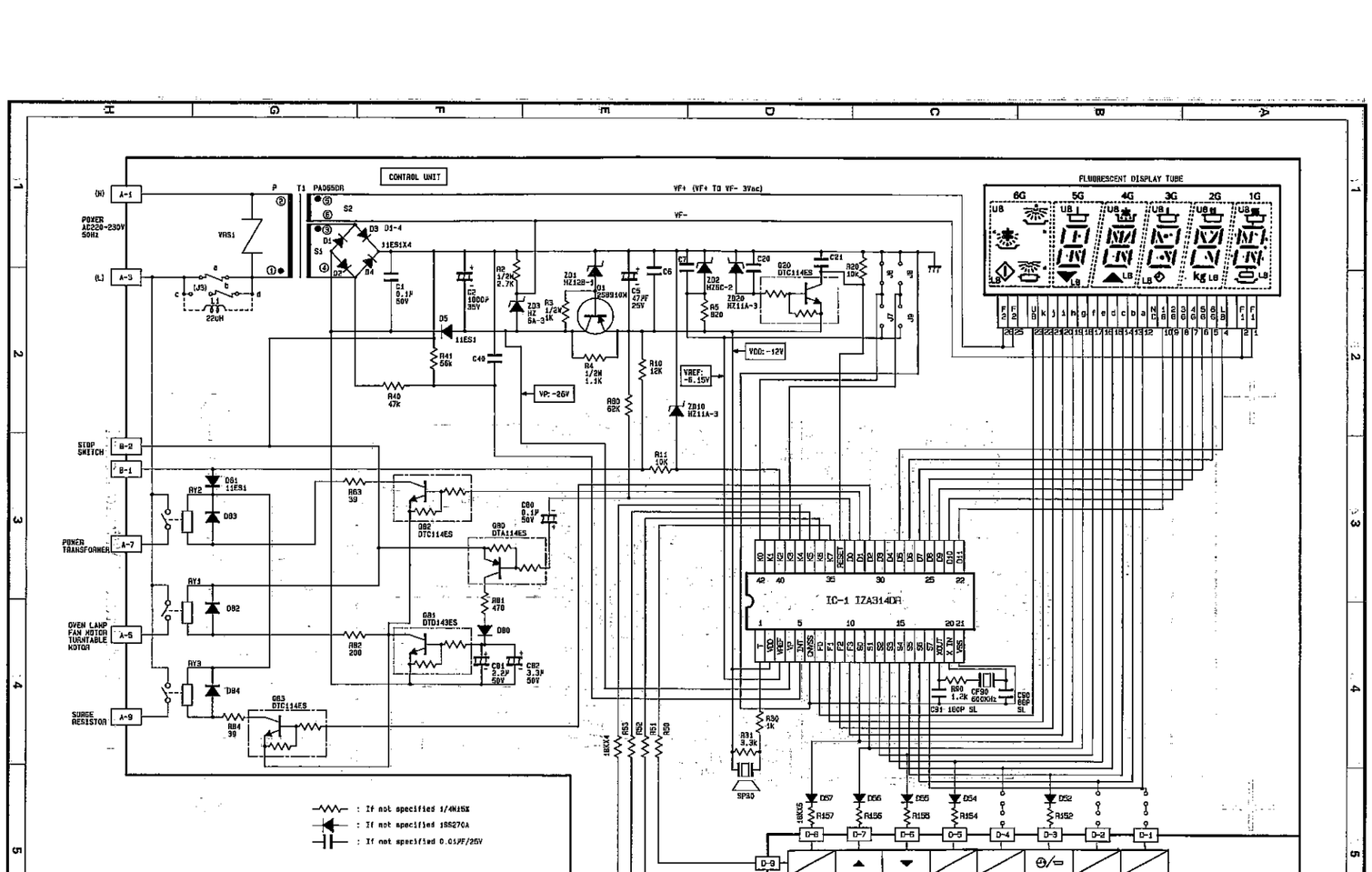



**Figure S-2. Control Panel Circuit**